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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,436	11/28/2000	Eshel Ben-Jacob	7640-X05-049	6759

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EXAMINER

MORAN, MARJORIE A

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/724,436

Applicant(s)

BEN-JACOB ET AL.

Examiner

Marjorie A. Moran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-17 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 15-17 and 30-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/11/06 has been entered. Claims 13-17 and 30-36 are pending.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-17 and 30-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15 and 35 recite the terms "Poly-G" and "Poly-C" consecutively without any connecting term, in line 2. It is unclear whether the conductive strands are intended to comprise Poly-G OR Poly-c, are intended to comprise both Poly-G AND Poly-C, or if some other combination or limitations is intended. As the limitation intended is unclear, claim 15 is indefinite.

Claim 16 recites an apparent step; "is employed", in line 2. As the claim is directed to a product, it is unclear if applicant actually intends a step, or intends some

limitation of the product. If the latter, then it is further unclear what structural or functional limitation is intended by the recitation of a method step.

Claim 17 recites the term "using" in line 2. This appears to be a method step. As the claim is directed to a product, it is unclear if applicant actually intends a step, or intends some limitation of the product. If the former, then it is further unclear what steps or steps are intended to be encompassed by the step of "using" a P-bridge. If the latter, then it is further unclear what structural or functional limitation is intended by the recitation of a method step.

Claim 30 recites an intended use or step in line 5; "can be controlled". It is unclear if applicant intends a method step of controlling or intends some limitation of the product to which the claim is actually directed. Further, as the "step" is not recited in active, positive language, it is unclear whether any limitation is actually intended. As the limitation intended by "can be controlled" is unclear, the claim is indefinite.

Claim 31 recites the limitation "the pair of complementary strands" in line 2. There is insufficient antecedent basis for this limitation in the claim. Parent claim 30 does not recite either pairs of (DNA) strands nor any complementary (DNA, nucleotide bases, etc.) limitations anywhere.

Claim 31 recites the limitation "the DNA molecule structure" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. Parent claim 30 recites a DNA molecule, but not a DNA molecule *structure*, and thus fails to provide antecedent basis for "the DNA molecule structure" of claim 31.

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Claim 33 recites an apparent method step; "is provided" in line 2. As the claim is directed to a product, it is unclear if applicant actually intends a step, or intends some limitation of the product. If the latter, then it is further unclear what structural or functional limitation is intended by the recitation of a "providing" step.

Claims 34 and 35 recite the limitation "the source," each in line 1. There is insufficient antecedent basis for this limitation in the claim. Parent claim 30 does not recite any "source" or "source ...contacts."

Claim 36 limits an electronic device to be "further disposed" in an electronic logic circuit. The intended limitation of the device of claim 30 is unclear. If applicant is merely reciting a "placement" for the device, then claim 36 does not further limit the device of claim 30. I.e. Limiting the device to be placed in a circuit is comparable to limiting the device to be placed on a table - the device itself is the same regardless of its location. If applicant intends to claim a different product (e.g. a "logic circuit") comprising the device of claim 30, then applicant is advised that the instant claim is not so interpreted by the examiner due to the unclarity of the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 30-33 and 35-36 are rejected under 35 U.S.C. 102(e) as being anticipated by BRAUN et al. (WO 99/04440).

BRAUN anticipates instant claims 30-33 and 36, as previously set forth.

BRAUN further teaches that his DNA molecules bound to a junction/gate (i.e. either source or drain) may be a poly C (p. 28, lines 20-24), thereby anticipating claim 35.

Applicant's arguments filed 1/11/06 have been fully considered but they are not persuasive. In response to the argument that claim 30 "explicitly calls the active core as "the length of the DNA molecule"", as set forth on page 6 of the response, it is noted that claim 30 does not recite any "active core" but merely recites a length of DNA molecule capacitively coupled to a gate structure. BRAUN teaches that his DNA molecules may be joined by a variety of junctions, including some that may function as 'gates'; see page 28. Applicant's arguments with regard to "transistor action" are moot as the claims are not directed to methods.

***Allowable Subject Matter***

The following is an examiner's statement of reasons for allowance: applicant's arguments with regard to claims 13-14 are persuasive.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Claims 13-14 are allowed; claims 15-17 and 30-36 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marjorie A. Moran whose telephone number is (571) 272-0720. The examiner can normally be reached on Mon,Wed: 7-1:30; Tue,Thur: 7:30-6; Fri 7-3:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel can be reached on (571)272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marjorie A. Moran  
Primary Examiner  
Art Unit 1631

*Marjorie A. Moran*  
4/3/08